ASTRONOMY

Annual Index Volume 7, 1979

Department Index

Astronomy Forum:
the Amazing fuors, July 24; the Discovery of Jupiter's ring, Sep 24; Eclipsing '79, Nov 24; FAR OUT — by Jove!, Oct 26; Galactic orbit of Pioneer 10, Nov 30; I'm not worried..., July 26; Lusty legends, Sep 26; Moons that weren't, Aug 26; On building telescopes, Aug 24; the Path to discovery, Dec 24; a Personal voyage to Jupiter, Oct 24; Remember Viking?, Nov 26; Stephen W. Hawking, Nov 28; Voyager — why it's important, Sep 24

Astronomy Reviews:
Astronomy, the Cosmic Journey (Hartmann), May 68; Astrophoto Biennial 77-79 (Sanford), Sep 56; Binary and Multiple Systems of Stars (Batten), Jan 32; Burnham's Celestial Handbook (Burnham), July 77; The Collapsing Universe (Asimov), Feb 68; Cosmic Evolution (Field et al.), Aug 76; The Crab Nebula (Mitton), Nov 63; Earthwatch (Schwartz), Apr 64; Guide to Mars (Moore), May 69; Man and the Stars (Brown), Mar 65; Mars, the Red Planet (Asimov), June 72; The Martian Landscape (NASA), Aug 76; Murmurs of Earth (Sagan et al.), Oct 56; The Night Sky Book (Jobb), Mar 64; Our Changing Universe (Gribbin), Jan 33; The Planets (Ackerman), June 72; Project Daedalus (B.I.S.), Nov 62; The Red Limit (Ferris), Jan 33; The Road to the Stars (Nicholson), Apr 64; Skylab Explores the Earth (NASA), Mar 64; The Solar System (Wood), Oct 56; Space, Time and Gravity (Wald), May 68; Space and Time in the Modern Universe (Davies), Feb 68; Spaceships of the Mind (Calder), Nov 62; Stars and Nebulas (Kaufmann), Sep 56; Ten Faces of the Universe (Hoyle), Jan 32; Until the Sun Dies (Jastrow), July 76

Astro-Mart:
Jan 65, Feb 62, Mar 66, Apr 66, May 62, June 64, July 68, Aug 68, Sep 73, Oct 73, Nov 85, Dec 70

AstroNews:
Adaptable life, Dec 60; Additional black hole candidates, Sep 64; Afro-American skylore, Jan 61; Aldebaran's diameter, July 60; Amateur discovers supernova, Aug 60; Arab sighting of Crab supernova (1054 A.D.), Jan 63; Asteroid 532 Herculina occults a star, Mar 61; Asteroid Ra-Shalom (1978-RA), Jan 60; Asteroid satellites, Nov 70; "Astrolab" Shuttle mission, Jan 63; Astronomical doomsday?, July 61; Australian telescope design has novel features, May 56; Beam-building for space structures, Jan 61; Binary quasar?, Sep 61; Black holes rotate?, Nov 71; Budget cuts for NASA, Mar 55; Chiron's orbit unstable, May 57; Comet dust on Earth, Dec 61; Cosmic microwave background, Apr 53; Cosmic ray observatory, Oct 59; Cygnus X-1 X-ray photo from HEAO-2, Jan 63; Death of the dinosaurs, Sep 64; Einstein star map (statue), Aug 62; Emission-line galaxies, Nov 72; 400-inch telescope?, Aug 59; Galactic center photo (infrared), Apr 56; Galactic corona, Sep 63; Galactic explosions, Oct 60; Galactic gas clouds, Nov 69; Galileo mission in trouble, Dec 62; Gravity and PSR 1913+16, June 60; Gravity waves detected, Feb 56; Hale 200-inch telescope is 30 years old, Sep 60; HEAO-3, Nov 70; Highly active Sun forecast, Aug 64; Infrared astronomy from Wyoming, Apr 54; Instead of man on Mars..., July 62; International Sun-Earth Explorer-3 satellite, Mar 57; Ion engines for space propulsion, June 63; Isaac Newton telescope (100") relocated, Oct 59 & Nov 71; Isotope anomalies in meteorites, Feb 60; Jovian plasma torus?, Aug 59; Large Magellanic Cloud is young, Jan 64; Largest infrared telescope (UKIRT), Nov 72 & Dec 59; Largest sprial galaxy (NGC-1961), Aug 62; Light pollution, Aug 63; Local Group picks up new member galaxies, May 59 & Nov 69; Lunar maria origin theory, May 55; Martian dust storm (picture), Mar 59; Martian oases, Sep 62; Moon treaty, Sep 65; Multiple Mirror Telescope dedicated, July 60; New cosmic "yardstick," June 61; New jovian moon, Dec 60; Pioneer 10 & 11, Aug 60; Pioneer Venus, Feb 55 & July 58; Planetary life possibilities, Oct 62; Predicting supernovae, July 63; Owens Valley radio interferometer, Jan 60; Puzzling Uranus, Jan 59; Rings of Uranus and Saturn, Feb 59; Russian Venus probes, Mar 56; Salyut 6 space station, Dec 58; Saturnian ring additions?, May 55; Seasat mission ends, Jan 63; Shadow of an eclipse, July 63; Shuttle launch delayed, Jan 59; Skylab-saving mission abandoned, Apr 53; Slow-spinning asteroids, Aug 62; Solar polar mission, June 62; Solar power satellites, Mar 60; Solar upwellings, May 58; Space telescope servicing, Oct 59; SS-433, June 61 & July 60; Standard astronomy instruments, Feb 57; Standard Shuttle instruments, Aug 61; Sun a double star?, May 57; Supernovae, Oct 61; Terrestrial craters, Sep 63; Texas Symposium on Relativistic Astrophysics (9th), Mar 60; Uninhabitable stars, July 61; Uranus and Neptune temperatures and rotations, Apr 57; Variable Sun and terrestrial weather, Mar 58; Vela supernova, Mar 59; Venus-Earth orbital resonances, Oct 58; Very long baseline interferometry, May 58; Viking update, Oct 61; Voyager 1 data, June 58 & Nov 68; Voyager's new worlds, June 63; "White Rock" (martian crater feature), Jan 61; X-ray burster photographed, Aug 58

Behind the Scenes:
Apr 4, June 17, July 23, Aug 29, Oct 71, Nov 58, Dec 53

Cover pictures:
Aurora, Jan
Setting Sun, Feb
Jupiter, Mar, Apr, May, Sep
Eclipsed Sun, June
NGC-6744, July
Comet West, Aug
Martian landscape, Oct
Saturn, Nov
Eclipsed Moon, Dec

Equipment Atlas:
Buyer's guide to telescopes, Oct 36; Equipment for observing the Sun, Dec 46; Eyepieces, Feb 42; How to use a star atlas, Apr 36; More about nebular filters, Aug 46; Nebular filters, Mar 51; Read 'um and don't weep, July 40; a Simple, low cost mounting, Jan 54; Visual image brightness, Sep 47

Gazer's Gazette:
the Globular clusters, July 47; Halos, rings, and arcs in the sky, Apr 42; Hunt a cluster, Jan 46; Learning to look, Sep 52; Minimal astronomy, Aug 31; the

Moon: mountains, basins, and scarps, Nov 53; the Moon: the southern highlands, June 36; Observe a quasar, Dec 55; Patrolling the planets, Mar 42; Saturn's vanishing rings, Oct 42; the Top 21 deep-sky objects, Oct 47

In Focus:
Jan 37, Feb 4, May 25, June 16, July 21, Aug 4, Sep 71, Oct 71, Nov 58, Dec 52

Photography in Astronomy:
Catch a falling star, Aug 49; Ektachrome 400, June 45; High resolution astrophotography, Nov 43; How to get steady pictures, Oct 52; How to photograph a spaceship, June 50; Improve your slides through rephotography, Feb 34; Piggybacking — without a drive, Apr 32; Photographing star clusters, Jan 52; This is astrophotography, Sep 37; Tricolor astrophotography, Dec 64

Sky Almanac:
Jan 26, Feb 22, Mar 27, Apr 26, May 26, June 26, July 31, Aug 36, Sep 31, Oct 30, Nov 34, Dec 38

Star Dome:
Jan 73, Feb 73, Mar 73, Apr 73, May 73, June 76, July 80, Aug 80, Sep 80, Oct 80, Nov 92, Dec 78

Stellar Frontiers:
Cosmic neon lights, Apr 48; the Cosmological principle, Oct 66; Does cosmology have a future?, July 35; Herschel and the rings of Uranus, Jan 42; How stars lose their cool, Mar 34; Mass loss from stars, Nov 78; a New revolution in solar physics, Feb 50; Stellar formation, Sep 66

Author Index

Berry, Richard: More about nebular filters, Aug 46; Nebular filters, Mar 51; On building telescopes, Aug 24; Piggybacking — without a drive, Apr 32; Photographing star clusters, Jan 52; Return to Jupiter, Sep 6; The 1979 buyer's guide to telescopes, Oct 36

Burnham, Robert: The Grand Adventure, Mar 6; How to get steady pictures, Oct 52; Hunt a cluster!, Jan 46; Learning to look, Sep 52; The Moon: mountains, basins, scarps, Nov 53; The Moon: the southern highlands, June 36; Patrolling the planets, Mar 42; Pioneer at Saturn, Nov 6; Saturn's vanishing rings, Oct 42; Star Dome, May 73

Capen, Charles F.: Herschel and the rings of Uranus, Jan 42

Clark, David H.: A new revolution in solar physics, Feb 50

Cohen, Howard: Look who's moving into our neighborhood, Apr 6

Cohen, Martin: The amazing fuors, July 24; Stellar formation, Sep 66

Cordova, France: The path to discovery, Dec 24

Cruikshank, Dale P.: Moons that weren't, Aug 26

Darling, David: Planetary nebulae, part 1: how stars lose their cool, Mar 34; Planetary nebulae, part 2: cosmic neon lights, Apr 49; The quasar connection, Dec 6; What makes a spiral galaxy?, July 6

Davis, Joel: Is there a "new" lunar crater?, Jan 18; The sun-grazers, Aug 18

Dodds, Earle: A simple, low cost mounting, Jan 54

Fulton, Ken: Read 'um and don't weep, July 40

Gephart, Roy E.: Catch a falling star, Aug 49

Halvorsen, Hal: I'm not worried, July 26

Hartmann, William K.: Remember Viking?, Nov 26

Isaacman, Richard: Using Earth as a radio telescope, Oct 6

Kasle, David B.: Moons that weren't, Aug 26

Keenan, Daniel W.: Galactic orbit of Pioneer 10, Nov 30

Kirvel, Robert: Eclipsing '79, Nov 24

Koehler, Dan: The great midwinter eclipse, May 34

Maley, Paul: How to photograph a spaceship, June 50

Malin, David F.: Exploring the image, Nov 16

Mallmann, James: Halos, rings, and arcs in the sky, Apr 42

Mayer, Ben: Far out — by Jove!, Oct 26; Improve your slides through rephotography, Feb 34

Mitton, Simon: Stephen W. Hawking, Nov 28

Mullaney, James: Observe a quasar!, Dec 55; Star Dome, every month [except May]

Mutch, Thomas: Voyager — why it's important, Sep 24

Oliver, John: Look who's moving into our neighborhood, Apr 6

Parker, Barry: Are we the only intelligent life in our galaxy?, Jan 6; The first second of time, Aug 6

Pinheiro, Robert: Gravity wave astronomy, June 6

Plante, Philip L.: Visual image brightness, Sep 47

Reed, Steve: High resolution astrophotography, Nov 43

Royer, Ronald E.: Tricolor astrophotography, Dec 64

Schwartzenburg, Dewey: Celestial software, part 5: how to use a star atlas, Apr 36; Celestial software, part 6: brightness and magnitude, July 54; Does cosmology have a future?, July 35; Equipment for observing the Sun, Dec 46; Eyepieces: what you get is what you see!, Feb 42; The grand adventure, Mar 6; Patrolling the planets, Mar 42; Star Dome, every month; A voyage to Jupiter, May 6

Seeds, Michael: Stellar evolution, Feb 6

Sheehan, Michael: Lusty legends, Sep 26

Stencel, Robert E.: Mass loss from stars, Nov 78

Stephenson, F. Richard: A new revolution in solar physics, Feb 50

Sterrenburg, Frithjof A. S. : Minimal astronomy, Aug 31

Weir, Myra: A personal voyage to Jupiter, Oct 24

Wesson, Paul: The cosmological principle, Oct 66

Witkoski, F. Michael: Stellar metropolises: the globular clusters, July 47

Title Index

The amazing fuors (Cohen), July 24

Are we the only intelligent life in our galaxy? (Parker), Jan 6

Buyer's guide to telescopes (Berry), Oct 36

Callisto, May 18

Catch a falling star (Gephart), Aug 49

Celestial software (Schwartzenburg), part 5: how to use a star atlas, Apr 36; part 6: brightness and magnitude, July 54

The cosmological principle (Wesson), Oct 66

The discovery of Jupiter's ring, Sep 24

Does cosmology have a future? (Schwartzenburg), July 35

Eclipsing '79 (Kirvel), Nov 24

Ektachrome 400, June 45

Equipment for observing the Sun (Schwartzenburg), Dec 46

Europa and Ganymede, May 14

Exploring the image (Malin), Nov 16

Eyepieces: what you get is what you see! (Schwartzenburg), Feb 42

Far out — by Jove! (Mayer), Oct 26

The first second of time (Parker), Aug 6

Galactic orbit of Pioneer 10 (Keenan), Nov 30

The globular clusters (Witkoski), July 47

The grand adventure (Schwartzenburg & Burnham), Mar 6

Gravity wave astronomy (Pinheiro), June 6

The great midwinter eclipse, May 34

The great red spot, May 20; Sep 12

Halos, rings, and arcs in the sky (Mallmann), Apr 42

Hektor: a strange asteroid?, Mar 62

Herschel and the rings of Uranus (Capen), Jan 42

High resolution astrophotography (Reed), Nov 43

How to get steady pictures (Burnham), Oct 52

How to photograph a spaceship (Maley), June 50

Hunt a cluster! (Burnham), Jan 46

I'm not worried...(Halvorsen), July 26

Improve your slides through rephotography (Mayer), Feb 34

Io, May 11

Is there a "new" lunar crater? (Davis), Jan 18

The jovian clouds, Sep 20

Jupiter pictorial, Aug 54

Learning to look (Burnham), Sep 52

Look who's moving into our neighborhood (Cohen & Oliver), Apr 6

Lusty legends (Sheehan), Sep 26

Mass loss from stars (Stencel), Nov 78

Minimal Astronomy (Sterrenburg), Aug 31

The Moon: mountains, basins, and scarps (Burnham), Nov 53

The Moon: the southern highlands (Burnham), June 36

More about nebular filters (Berry), Aug 46

More pictures from Saturn, Dec 30

Nebular filters (Berry), Mar 51

A new revolution in solar physics (Clark & Stephenson), Feb 50

NGC-1275, Oct 14

The 1979 buyer's guide to telescopes (Berry) Oct 36

Observe a quasar! (Mullaney), Dec 55

The path to discovery (Cordova), Dec 24

Patrolling the planets (Burnham & Schwartzenburg), Mar 42
A personal voyage to Jupiter (Weir), Oct 24
Photographing star clusters (Berry), Jan 52
Piggybacking — without a drive (Berry), Apr 32
Pioneer at Saturn (Burnham), Nov 6
Pioneer Venus: first results, Apr 18
Planetary nebulae (Darling), part 1: how stars lose their cool, Mar 34; part 2: cosmic neon lights, Apr 48
The quasar connection (Darling), Dec 6
Read 'um and don't weep (Fulton), July 40
Remember Viking? (Hartmann), Nov 26
Return to Jupiter (Berry), Sep 6
Saturn's vanishing rings (Burnham), Oct 42
A simple, low cost mounting (Dodds), Jan 54
Stellar evolution (Seeds), Feb 6
Stellar formation (Cohen), Sep 66
Stellar metropolises: the globular clusters (Witkoski), July 47
Stephen W. Hawking (Mitton), Nov 28
The sun-grazers (Davis), Aug 18
This is astrophotography, Sep 37
The top 21 deep-sky objects, Oct 47
Tricolor astrophotography (Royer), Dec 66
Using Earth as a radio telescope (Isaacman), Oct 6
Visual image brightness (Plante), Sep 47
A voyage to Jupiter (Schwartzenburg), May 6
A Voyager album, Oct 16
Voyager approaches Jupiter, Apr 14
Voyager — why it's important (Mutch), Sep 24
What makes a spiral galaxy? (Darling), July 6
X-ray pictures from space, June 18

Subject Index

Asteroids: Hektor, Mar 62
Astrophotography: decreasing contrast, Nov 16; **earth satellites**, June 50; **Ektachrome 400**, June 45; **eliminating vibration**, Oct 52; **enhancing faint images**, Nov 16; **eyepiece projection**, Nov 43; **high-resolution**, Nov 43; **increasing contrast**, Feb 34, Nov 16; **meteors**, Aug 49; **piggybacking without a drive**, Apr 32; **star clusters**, Jan 53; **tricolor**, Dec 66
Beginning of the universe, Aug 7
Big bang, Aug 7
Black holes, Feb 18
Brightness and magnitude, July 54
Callisto (jovian moon), May 18
Comets, Aug 18
Cosmology, July 35; Aug 7, Oct 66
Cygnus X-1, Feb 19
Europa (jovian moon), May 15
European Space Agency, Mar 19
Fundamental forces, Aug 8
Fuors, July 24
Galactic evolution, July 7
Galaxies: active, Dec 7; **bibliography**, July 17; **Seyfert**, Oct 15; **spiral**, July 7; **individual: M-31**, Oct 49, Nov 96; **M-32**, Nov 96; **M-33**, Aug 33, Dec 84; **M-51**, May 79, Oct 50; **M-63**, May 79; **M-81**, Apr 79, Oct 50; **M-82**, Apr 79, Oct 50; **M-94**, May 78; **M-101**, Feb 39, Apr 79; **M-106**, May 79; **M-108**, Apr 78; **M-109**, Apr 79; **M-110**, Nov 96; **NGC-1275**, Oct 15
Galileo (mission), Mar 14
Ganymede (jovian moon), May 15
Giordano Bruno (lunar crater), Jan 18
Gravity waves, June 6
Hawking, Stephen W., Nov 28
HEAO-1 (research satellite), Dec 24
Heavy element generation, July 15
Herschel, William, Jan 42
Infrared objects, July 24
Interferometry, Oct 7
Io (jovian moon), May 10
Jupiter, Apr 14, May 6, Aug 54, Sept 7; **moons**, Mar 10, Aug 54, Sept 7, 26; **ring discovery**, Sept 24
Life, Jan 6
Magnitude scales, July 54
Meteors, Aug 49
Moon: craters, Jan 18; **maria**, Nov 53; **mountains**, Nov 53; **observing**, June 36; **southern highlands**, June 36
Moons — *see Planets: moons*
Moonbows, Apr 43
Nebulae: diffuse: Crab, Jan 79, Feb 38, Aug 33, Oct 49; **Eagle**, Feb 39, Aug 84; **Lagoon**, Oct 48; **Omega**, Feb 36, Oct 47; **Orion**, Oct 47; **Rosette**, Feb 8; **Trifid**, Feb 35; **M-1**, Jan 79, Feb 38, Aug 33, Oct 49; **M-8**, Oct 48; **M-16**, Feb 39, Aug 84; **M-17**, Feb 36; **M-20**, Feb 35; **M-42**, Oct 47; **planetary: Mar 34, Apr 48; Dumbbell**, Mar 38, Oct 48; **Eight-burst**, Oct 48; **Helix**, Mar 35; **Owl**, Apr 78; **Ring**, Mar 38, Apr 52, July 84, Aug 33, Oct 48; **Saturn**, Apr 49; **M-27**, Mar 38, Oct 48; **M-57**, Mar 38, Apr 52, July 84, Aug 33, Oct 48; **M-97**, Apr 78; **NGC-2438**, Mar 78; **NGC-2440**, Mar 79; **NGC-3132**, Oct 48; **NGC-6720**, Mar 38, Apr 52; **NGC-6781**, Feb 19; **NGC-6853**, Mar 38; **NGC-7009**, Apr 49; **NGC-7293**, Mar 35; **NGC-7662**, Nov 96
Observing techniques: using a small refractor, Aug 31
Oort cloud (of comets), Aug 18
Parhelic phenomena, Apr 42
Pioneer 10, Nov 30
Pioneer 11, Nov 6 — *see also under Saturn*
Planetariums, Apr 73
Planetary exploration, Mar 6
Planetary satellites, Aug 26
Planets: moons, Aug 26; **names**, Mar 73; **observing**, Mar 42
Quasars, Dec 7; **observing**, Dec 55
Radio interferometry, Oct 7
Rainbows, Apr 42
Relativity, June 6
Riverside (Calif.) Telescope Makers Conference, Aug 24
Russian space plans, Mar 18
SETI, Jan 6
SPS, July 26
Saturn, Nov 6, Dec 30; **rings**, Oct 42, Nov 10
Solar eclipse: February 26, 1979, May 34, Nov 24
Solar power satellites, July 26
Solar system: formation, Jan 10
Star atlases, Apr 36
Star clusters: globular, July 47; **M-2**, July 52; **M-3**, May 79, July 49; **M-4**, July 50; **M-5**, July 49; **M-9**, July 52; **M-10**, July 51; **M-12**, July 52; **M-13**, Feb 38, July 49, Oct 47; **M-14**, July 52; **M-15**, July 52; **M-19**, July 50; **M-22**, July 52; **M-55**, July 52; **M-56**, July 52, 85; **M-62**, July 50; **M-71**, July 52; **M-79**, July 52; **M-80**, July 50; **M-92**, July 50; **M-107**, July 52; **NGC-288**, July 52; **NGC-2419**, July 52; **open: Double Cluster (h + χ Per)**, Jan 46, Oct 47; **Hyades**, Jan 79; **Pleiades**, Jan 46 & 75, Oct 47; **M-11**, Jan 52, Aug 84; **M-26**, Aug 83; **M-35**, Jan 49; **M-36**, Jan 48; **M-37**, Jan 48; **M-41**, Jan 46, Feb 79; **M-44**, Jan 49; **M-45**, Jan 46, Oct 47; **M-46**, Jan 48, Mar 78; **M-47**, Mar 79; **M-93**, Mar 78; **M-103**, Jan 46; **NGC-188**, Oct 85; **NGC-752**, Nov 96; **NGC-864 & 869**, Jan 50; **NGC-2158**, Jan 50; **NGC-2362**, Feb 79; **NGC-2477**, Mar 78; **NGC-7209**, Sept 84; **NGC-7243**, Sept 85; **NGC-7789**, Jan 48
Stars: color, Jan 73, Feb 73; **evolution**, Feb 6, Mar 34, July 24, Sept 66, Nov 78; **formation**, Sept 66; **mass losses**, Nov 78; **nearby**, Apr 13; **neutron**, Feb 17; **populations**, July 13; **proper motion**, Apr 6
Stars (individual): Adhara, Feb 79; **Albireo**, Oct 50; **Alcor**, Apr 75, Oct 50; **Aldebaran**, Jan 78; **Algol**, Oct 50; **Arcturus**, June 78; **Cor Caroli**, May 78; **Mira**, Oct 50; **Mizar**, Apr 75, Oct 50; **Polaris**, Aug 33; **Sirius**, Feb 75; **Vega**, July 81; **Krueger 60**, Oct 83; **Struve 2890**, Sept 85; **Struve 2894**, Sept 84; **Gamma (γ) Andromedae**, Nov 94; **Gamma (γ) Arietis**, Dec 82; **Epsilon (ε) Bootis**, June 80; **Mu (μ) Bootis**, June 81; **Pi (π) Bootis**, June 81; **Xi (ξ) Bootis**, June 79; **Zeta (ζ) Bootis**, June 80; **44 Bootis**, June 81; **W Canis Majoris**, Feb 79; **Y Canum Venaticorum**, May 78; **Beta (β) Cephei**, Oct 84; **Delta (δ) Cephei**, Oct 50, 82; **Mu (μ) Cephei**, Oct 85; **Omicron (ο) Cephei**, Oct 84; **Xi (ξ) Cephei**, Oct 84; **Omicron (ο) Ceti**, Oct 50; **Beta (β) Cygni**, Oct 50; **8 Lacertae**, Sept 83; **AR Lacertae**, Sept 84; **S Lacertae**, Sept 84; **Beta (β) Lyrae**, July 84; **Epsilon (ε) Lyrae**, July 83, Aug 33, Oct 50; **Zeta (ζ) Lyrae**, July 84; **Beta (β) Monocerotis**, Oct 50; **FU Orionis**, July 24; **Beta (β) Persei**, Oct 50; **Kappa (κ) Puppis**, Mar 75; **Theta (θ) Serpentis**, Aug 82; **Iota (ι) Trianguli**, Dec 84; **Alpha (α) Ursae Minoris**, Aug 33; **Xi (ξ) Ursae Majoris**, Apr 75, Oct 50;
Sun: evolution, Feb 6; **long-term variability**, Feb 50; **nuclear reactions**, Feb 6; **observing**, Dec 46; **sunspots**, Feb 50
Sun pillars, Apr 42
Sun rings, Apr 42
Sundogs, Apr 42
Telescopes and accessories: advice to beginners, Sept 52; **advice to buyers**, July 40; **buyers' guide**, Oct 36; **Dobsonian designs**, Aug 24; **eyepieces**, Feb 42; **hand-powered slow-motion controls**, Apr 33; **image brightness (visual)**, Sept 47; **mounting with stationary eyepiece** Jan 54; **nebular filters**, Mar 51, Aug 46; **radio telescopes**, Oct 7; **small refractors**, Aug 31; **solar observing**, Dec 46
Unified field theories, June 6
Uranus: rings, Jan 42
Venus, Apr 18
Viking 1 & 2, Nov 26
Voyager 1 & 2, Sept 24, Oct 24, 26 — *see also under Jupiter*
X-ray astronomy, June 18